

Air Force Invention No. AFB00497

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On 30 November 2005
(DATE OF DEPOSIT)

Thomas C. Stover 22,531
NAME OF APPLICANT, ASSIGNEE, OR REG. REP.

Thomas C. Stover 30 November 2005
SIGNATURE DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re CIP Application of
Geoff P. Andersen
Application Serial No. 09/427,457
Filed: 16 October 1999
For: HOLOGRAPHIC IMAGE CORRECTOR

Group Art Unit: 2872
Examiner: A. Chang

Honorable Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 C.F.R. 1.132

I, Geoff P. Andersen of Colorado Springs, Colorado, declare and say that:

1. I am the sole inventor in the above-identified application, effectively filed on 16 April 1997.
2. I have a PhD in Physics (Optics) and an adjunct a professor at the Air Force Academy here in Colorado.
3. I have conducted research and experiments in writing holograms with split laser beams to correct for aberrations in lenses, including in microscopes, so as to receive clear or accurate images therethrough.
4. It appears that a recent Office Action, dated 9-13-05, in ¶ 11, states that playback of an image through a hologram only requires illumination, of an article to be viewed, by light, having the same wavelength as the hologram recording beam, but that no coherency is required. However, in my experience, this type of illumination will result in a blurred image on playback in a microscope. That is, I have found that such article needs to be illuminated by a laser beam

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of the same wavelength as the hologram recording beam, to obtain a clear or non blurred image on playback in a microscope.

5. Also, the above Office Action, on page 8, asserts that USP 3,742,555 to Klotz teaches the use of a pinhole array in the object light path to record a hologram of high image quality and thus suggests the pinhole array referred to in applicant's claims 21 et seq. However, Klotz does not have an uncomplex plate with pinholes in the path of a beam. Instead, he teaches a plate having apertures therein, each aperture having a pinhole diaphragm 5 therein, with a phase plate 4 coated on the upstream side of each pinhole, with the pinholes pointed at different angles (per his Figures 1 & 2 and as noted in his column 3, lines 7 et seq.) to avoid highly irregular intensity distribution of sub beams 6 on his photographic plate 10.

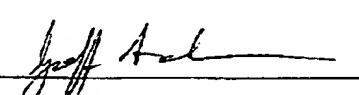
6. In addition, Klotz requires a zone plate 3 also mounted upstream of his phase plate 4, so as to divide the incoming beam 1 as it passes through lens 2 and plates 3, 4 & 5, into a plurality of sub-beams 6, to obtain not a single image on plate 10 of his Figure 1 but multiple miniature holograms, such as multiple images of masks, used in the fabrication of integrated circuits, as noted in his column 1, lines 11-17.

7. This teaching is quite different from applicant's array of pinholes 142 & 134, per applicant's Figure 11. That is, the Klotz structure has a relatively complex assembly of plates 3, 4 & 5, which divide a single beam 1 into multiple sub-beams 6, which are contacted by reference beam 7, to write multiple miniature holograms on plate 10.

8. Thus the Klotz lens system does not suggest applicant's uncomplex pinhole array, e.g., of Figure 11, which writes but one hologram 141, for playback in a wider field of view; that is, a larger image than available with a single pinhole and, of course, larger than a mosaic of multiple miniature images produced by the Klotz lens system.

9. I further declare that my statements herein, made of my own knowledge are true and that all statements made on information and belief are believed to be true; and furthermore that these statements are made with the knowledge that willful false statements and the like so made, are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

30 November 2005


Geoff P. Andersen, Declarant